

IN THE CLAIMS

1. (Currently Amended) An apparatus for automatically detecting a size of a detection object comprising:

a background panel having a mark as a standard; and

a controller arranged to control a bar code reader for performing an optical scan of said detection object and said background panel with said detection object arranged between said background panel and a scanning source, to read information encoded in a barcode pattern arranged on the detection object and to automatically detect the size of said detection object, on the basis of signals obtained by electrically converting scanning light of said optical scan ~~reflected from said background panel and said detection object~~ of said barcode pattern and of a shortest scan from said mark to detection of said detection object.

2. (Currently Amended) An apparatus for automatically detecting a size of a detection object comprising:

a background panel having a mark as a standard and a code pattern arranged along a length direction of said detection object when said detection object is arranged for scanning; and

a controller arranged to control a code reader for performing an optical scan of said detection object and said background panel with said detection object arranged between said background panel and a scanning source, to read information encoded in said code pattern and to automatically detect the size of said detection object, on the basis of signals obtained by electrically converting scanning light of said optical scan ~~reflected from said background panel and said detection object~~ of said code pattern and of a shortest scan from said mark to detection of said detection object.

3. (Previously Presented) An automatic analyzer comprising:

an analytical unit for analyzing components of a sample which is an analytical object using a reagent;

a sampler unit for holding said sample and executing a pouring operation so as to transfer said sample of a volume necessary for analysis to said analytical unit;

a controller for controlling said analytical unit and said sampler unit;

a power unit for supplying power necessary for operations of said controller, said analytical unit, and said sampler unit to said respective units,

an optical information reader for reading contents of a code pattern label attached to a container for storing said sample as an object of discrimination, including a background panel having a mark as a standard installed behind said container when said container is arranged between said background panel and a scanning source; and

means for optically scanning said background panel and said code pattern by said optical information reader, measuring a height of said container with said code pattern attached on the basis of a signal obtained by electrically converting reflected light, and transmitting a result indicating said measured height of said container and discrimination information of said code pattern to said controller.

4. (Previously Presented) An automatic analyzer comprising:

an analytical unit for analyzing components of a sample which is an analytical object using a reagent;

a reagent container for storing said reagent;

sampler unit for holding said sample and executing a pouring operation so as to transfer said sample of a volume necessary for analysis to said analytical unit;

a controller composed of an electron circuit including an MPU, a memory, an I/O unit, and a sequencer for processing information, and a storage unit, for controlling said analytical unit and said sampler unit;

a power unit for supplying power necessary for operations of said controller, said analytical unit, and said sampler unit to said respective units;

an optical information reader for reading contents of a code pattern label attached to a container for storing said sample as an object of discrimination, including a background panel having a mark as a standard installed behind said container when said container is arranged between said background panel and a scanning source; and

means for optically scanning said background panel and said code pattern by said optical information reader, measuring a height of said container with said code pattern attached on the basis of a signal obtained by electrically converting reflected light, and transmitting a result indicating said measured height of said container and discrimination information of said code pattern to said controller.

5. (Previously Presented) An apparatus for automatically detecting a size of a detection object according to Claim 2, wherein said code pattern is a bar code.

6. (Original) An automatic analyzer according to Claim 3, wherein said background panel includes an auxiliary symbol in a neighborhood of said mark as a standard.

7. (Original) An automatic analyzer according to Claim 4, wherein said background panel includes an auxiliary symbol in a neighborhood of said mark as a standard.

8. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard;

a bar code reader which reads a code pattern arranged on said detection object by means of scanning light; and

a controller arranged to control said barcode reader for performing an optical scan of said detection object and said background panel with said detection object arranged between said background panel and a scanning source, to read information encoded in said code pattern and to automatically detect the size of said detection object, on the basis of a

signal obtained by electrically converting scanning light of said optical scan ~~reflected from said background panel and said detection object~~ of said code pattern and of a shortest scan from said mark to detection of said detection object.

9. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard and a code pattern arranged along a length direction of said detection object when said detection object is arranged for scanning;

an optical scanning information reader which reads the code pattern by means of scanning light; and

a controller arranged to control an optical scan of said detection object and said background panel with said detection object arranged between said background panel and a scanning source and to automatically detect the size of said detection object on the basis of a signal obtained by electrically converting reflected light of a shortest scan from said mark to detection of said detection object, said controller controlling said optical information reader to scan optically said detection object.

10. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard;

an optical information reader for reading contents of a code pattern label attached to said detection object for discrimination; and

means for optically scanning said background panel and said code pattern by said optical information reader, measuring a size of said detection object on the basis of a signal obtained by electrically converting reflected light, of a shortest scan from said mark to detection of said detection object and transmitting a result indicating said measured size of said detection object and discrimination information of said code pattern to a controller.

11. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard;

an optical scanning reader for performing an optical scan of said detection object, to which a code pattern is arranged along a length direction of the detection object, and said background panel with said detection object arranged between said background panel and a scanning source; and

a controller arranged to control said optical scanning reader, to read information encoded in said code pattern and to automatically detect the size of said detection object, on the basis of signals obtained by electrically converting scanning light of the optical scan ~~reflected from said background panel and said detection object~~ of said code pattern and of a shortest scan from said mark to detection of said detection object.

12. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard and a ~~bar~~ code barcode pattern arranged along a length direction of said detection object when said detection object is arranged for scanning;

a bar code reader for performing an optical scan of said detection object and said background panel with said detection object arranged between said background panel and a scanning source; and

a controller arranged to control said bar code reader, to read information encoded in said barcode pattern and to automatically detect the size of said detection object on the basis of signals obtained by electrically converting scanning

light of the optical scan ~~reflected from said background panel and said detection object~~ of said barcode pattern and of a shortest scan from said mark to detection of said detection object.

13. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard;

an optical scanning reader for performing an optical scan of said detection object, on which a code pattern is arranged, and said background panel with said detection object arranged between said background panel and a scanning source; and

a controller arranged to control said optical scanning reader, to read information encoded in said code pattern and to automatically detect the size of said detection object, on the basis of signals obtained by electrically converting scanning light of the optical scan ~~reflected from said background panel and said detection object~~ of said code pattern and of a shortest scan from said mark to detection of said detection object.

14. (Currently Amended) An apparatus for automatically detecting a size of a detection object, comprising:

a background panel having a mark as a standard and a ~~bar~~
~~code~~ barcode pattern arranged along a length direction of said
detection object when said detection object is arranged for
scanning;

a bar code reader for performing an optical scan of said
detection object and said background panel with said detection
object arranged between said background panel and a scanning
source; and

a controller arranged to control said bar code reader to
read information encoded in said barcode pattern and to
automatically detect the size of said detection object, on the
basis of signals obtained by electrically converting scanning
light of said optical scan ~~reflected from said background~~
~~panel and said detection object~~ of said barcode pattern and of
a shortest scan from said mark to detection of said detection
object.